Docket No.: 9988.090.00
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
KIM, Young Soo

Customer No.: 30827

Application No.: 10/720,749

Confirmation No.: 2778

Filed: November 25, 2003

Art Unit: 1746

For: WASHING MACHINE CONTROL METHOD

Examiner: Alexander Markoff

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF

Sir:

In response to a Final Rejection mailed on September 20, 2007 and an Advisory Action mailed on April 2, 2007, a Notice of Appeal was filed March 20, 2007. Appellant hereby submits this Appeal Brief.

The fees required under § 1.17(f) and any required petition for extension of time for filing this brief and fees therefore are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37(c):

    I.   **Real Party In Interest**

    II.   **Related Appeals and Interferences**

    III.   **Status of Claims**

    IV.   **Status of Amendments**

    V.   **Summary of Claimed Subject Matter**

    VI.   **Grounds of Rejection to be Reviewed on Appeal**

I.   REAL PARTY INTEREST

The real party in interest for this appeal is: LG Electronics Inc.

II.   RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect or be directly affected

by or have a bearing on the Board's decision in this appeal.

III.   **STATUS OF CLAIMS**

Total Number of Claims in the Application.

There are 9 claims pending in this application.

Current Status of Claims:

Claims canceled: None.

Claims withdrawn from consideration but not canceled: None.

Claims pending: Claims 1-9.

Claims allowed: None.

Claims rejected: Claims 1-9.

Claims on Appeal: The claims on appeal are claims 1-9.

IV.   STATUS OF AMENDMENTS

The Examiner issued a Final Rejection on September 20, 2006. A Request for

Reconsideration (titled as "Response") was filed on March 12, 2007. The Examiner then issued

an Advisory Action on April 2, 2007 indicating that the Request for Reconsideration was

considered but did not place the application in condition for allowance. A Notice of Appeal was

then filed on March 20, 2007. Accordingly, claims 1-9 are pending as in the Amendment filed

March 6, 2006, which is reflected in the Claims Appendix.

V.   SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention is directed to a washing machine control method that reduces the time required for completion of water supply operation to a set water level. *See* paragraph [0006]. According to a related art washing machine control method, a set water level is continuously monitored using a water level sensor, and is replenished a number of times to the set water level while interrupting the washing step. Because the watering step is repeatedly interrupted and water is replenished a number of times, the time to perform the washing is lengthened. *See* paragraphs [0005]-[0006]. Accordingly, the claimed invention is directed to resolving one or more of the problems discussed above.

Claim 1 recites a washing machine control method that includes proceeding with a user-selected wash course after supplying water to a washing machine according to a first water level set based on an amount of laundry in the washing machine. *See* Fig. 2, S201, and S203, and paragraph [0019]. Then a second water level is sensed at a predetermined time during the wash course. *See* Fig. 2, S206 and paragraph [0020]. Then a water level reduction rate is calculated based on the set first water level, the sensed second water level, and time. *See* Fig. 2, S208 and paragraph [0021]. A water re-supply amount is then determined by comparing the calculated water level reduction rate to a predetermined rate value. *See* Fig. 2, S209 and paragraph [0021]. Then the user-selected wash course is completed after re-supplying water to the washing machine according to the water re-supply amount. *See* Fig. 2, S210, S211, and S212, and paragraph [0021].

Claim 9 recites a washing machine control method that includes supplying water to a washing machine according to a first water level based on an amount of laundry in the washing machine. *See* Fig. 2, S201, and S203, and paragraph [0019]. Then a wash cycle is performed for a predetermined time. *See* Fig. 2, S205 and paragraph [0019]. Then a second water level is

7

sensed after the predetermined time. *See* Fig. 2, S206 and paragraph [0020]. A water level

reduction rate is then calculated by comparing the first water level and the second water level

over time. *See* Fig 2, S208 and paragraph [0021]. A water re-supply amount is then determined

by comparing the calculated water level reduction rate to a predetermined rate value. *See* Fig. 2,

S209, S210, and S211, and paragraph [0021]. Then, the wash cycle is completed after re-

supplying water to the washing machine based on the water re-supply amount. *See* Fig. 2, S212

and paragraph [0021].

VI.   **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 1-9 are properly rejected under 35 U.S.C. § 102(e) as being

anticipated by U.S. Patent No. 6,842,929 to Kim et al. (hereinafter "*Kim*").

VII.   ARGUMENT

The Examiner improperly rejected claims 1-9 under 35 U.S.C.
§ 102(e) as being anticipated by *Kim*.

As required in section 2131 of the M.P.E.P., in order to anticipate a claim under 35

U.S.C. § 102, "the reference must teach every element of the claim." "A claim is anticipated

only if each and every element as set forth in the claim is found, either expressly or inherently

described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814

F.2d 628, 631 (Fed. Cir. 1987).

Claim 1 recites, among other features, "calculating a water reduction rate based on the set

first water level and the sensed second water level." This feature provides advantage such as

optimum water re-supply amount being quickly determined, and thus preventing an excessive

repetition of water re-supply operations. *See, for example*, paragraph [0022]. The Examiner

admits that *Kim* does not use the term "water reduction rate." However, the Examiner argues

that the instant claim does not specify what is referenced as a "water reduction rate," and

moreover that the term "rate" is not defined. *See* page 2 of the Final Office Action mailed

September 20, 2006.

Appellant does not agree with the Examiner's argument. M.P.E.P. § 2111.01 states that

words of a claim must be given their "plain meaning" unless such meaning is inconsistent with

the specification. Specifically, M.P.E.P. § 2111.01 states that ordinary, simple English words

whose meaning is clear and unquestionable, absent any indication that their use in a particular

context changes their meaning, are construed to mean exactly what they say. The term "rate" has

a plain and ordinary meaning to one skilled in the art. For instance, Webster's II New Riverside

University Dictionary defines "rate" as a quantity measured in terms of another measured

quantity. This definition is consistent with the specification. That is, the specification describes

that "water level reduction rate" may be the change in water level (L1 and L2) relative to a change in time. *See, for example,* page 6, paragraph [0021]. In summary, the Examiner's argument that the term "rate" is not defined is simply wrong.

The Examiner mistakenly asserts that *Kim's* "measuring [a] number of 'refills' in time and measuring 'elapsed time' is a measuring of the rate." Final Office Action at page 2. The Examiner is incorrect. The cited disclosure of *Kim* does not describe the use of the measured values of the number of refills and elapsed time to determine any rate. Instead, *Kim* discloses that the number of water re-supplies and the elapsed time of each re-supply are used to determine the "final washing load," that is, the total weight (*i.e.*, the heaviness) of the laundry and water in the tub. *Kim* at column 5, lines 52-55. "[T]he final washing load is determined with reference to a number of water resupply times at each elapsed time after the initial water supply." *Id.* at column 5, lines 63-65. In other words, the number of water re-supplies and the elapsed time of each re-supply are used for the purpose of calculating a total <u>weight</u> of laundry and water in the tub, not a <u>rate</u>. *See id.* at column 5, lines 52-55.

While *Kim* may record the number of times water is re-supplied and the time that has elapsed between the end of the initial water supply step and the re-supply steps, the data is not used (and is not disclosed as being used) for "calculating a water reduction rate based on the set first water level and the sensed second water level," as required in claim 1. As stated above and below, *Kim* relates to determinations of weight, not rate. One cannot reasonably understand *Kim* as containing an express or inherent disclosure of a calculation of "a water level reduction rate," as recited in claim 1.

The Examiner further argues "that the calculations of Kim et al serve for the same purpose [as the claimed invention] – to determine [a rate] of water absorption in the laundry and

11

determine washing settings based on the obtained data." Final Office Action at page 3 (citing to

Kim at column 5, line 2 - column 6, line 4). This is simply not true.

In fact, as stated above, the purpose of *Kim* is to determine the combined weight of the

laundry and water in the tub. *Kim* discloses measuring the water level within the drum via a

water level sensor. When the sensed water level is determined to be below a predetermined

minimum water level, "the controller opens the water supply valve until a water level higher than

the minimum water level is detected at the water level sensor." *See* column 5, lines 8-16. *Kim*

further discloses that the number of times water is re-supplied to the drum is measured and each

time water is re-supplied to the drum, the time that has elapsed between the end of the initial

water supply step and the re-supply step is measured. These measurements are then stored in the

controller. *See* column 5, lines 20-25. However, *Kim* fails to use the stored data to determine a

"rate."

Instead, *Kim* uses these data to determine the weight of the final washing load in order to

carry out washing according to a washing method consistent with the actual washing load

(weight) to prevent overload to the motor thereby enhancing washing performance. *See* column

7, lines 54-65. The final washing load is the sum of the number of water re-supply times for

each of a plurality of time periods multiplied by a unitless weighting factor (not to be confused

with the weight, or heaviness, of the combined laundry and water in the tub). *See* column 6,

lines 33-67. Summing a weighted value of the number of times that water is re-supplied to the

drum cannot yield a rate value. Therefore, *Kim* cannot possibly anticipate "calculating a water

level reduction rate," as recited in claim 1.

Furthermore, *Kim* fails to disclose "calculating a water level reduction rate based on the

set first water level and the sensed second water level," where the first water level is set <u>prior</u> to

"proceeding with a user-selected wash course" and the second water level is sensed "<u>during</u> the

wash course." Instead, *Kim* discloses determining the final washing load <u>prior</u> to proceeding
with a user-selected wash course. *See* column 7, lines 35-37. Therefore, *Kim* fails to disclose,
either expressly or inherently, at least "calculating a water level reduction rate based on the set
first water level and the sensed second water level."

Claim 2 depends from claim 1 and recites that the water is re-supplied according to the
first water level, if the calculated water level reduction rate is less than the predetermined value.
Kim does not disclose this feature. Instead, *Kim* discloses that the controller repeats the water re-
supply whenever it is determined that the water level in the drum is below a minimum water
level. *See Kim* at column 5, lines 16-18. In other words, there is no calculation of water
reduction rate that is used to determine whether the water is re-supplied according to the first
water level, as required in claim 2.

Because claim 3 depends from claim 8, claim 8 will be addressed first. Claim 8 depends
on claim 1 and recites that the water is re-supplied according to a third water level if the
calculated water level reduction rate is greater than or equal to the predetermined value. *Kim*
does not disclose this feature. Rather, *Kim* discloses that the controller repeats the water re-
supply whenever it is determined that the water level in the drum is below a minimum water
level. *See Kim* at column 5, lines 16-18. *Kim* not only fails to disclose calculating water level
reduction rate, but also fails to disclose what the controller would do if the calculated water level
reduction rate is greater than or equal to the predetermined value.

Claim 3 depends from claim 8 and recites that the third water level is greater than the first
water level. Because *Kim* fails to disclose all the features of claim 8, it follows that *Kim* fails to
disclose all the features of claim 3.

Claim 4 depends from claim 1 and recites that sensing and calculating steps are each
repeated, to obtain an average rate of water level reduction, and wherein the user-selected wash

13

course is reset based on the average rate of water level reduction. *Kim* fails to disclose this feature. *Kim* discloses that the controller sums the number of water re-supply times for each of the preset time zones. *See Kim* at column 6, lines 20-23. *Kim*, however, fails to disclose that sensing and calculating steps are each repeated, to obtain an average rate of water level reduction. Furthermore, *Kim* fails to disclose that the user-selected wash course is reset based on the average rate of water level reduction.

Claim 5 depends from claim 4 and recites that the sensing and calculating steps are each repeated three times. *Kim* does not disclose this feature.

Claim 6 depends from claim 4 and recites that the sensing and calculating steps are each repeated four times. *Kim* does not disclose this feature.

Claim 7 depends from claim 1 and recites that the first and second water levels are sensed by sensing a variation of a water pressure of the water in the washing machine. Because *Kim* fails to disclose all the features of claim 1, it follows that *Kim* fails to disclose all the features of claim 7.

Claim 9 recites among other features, calculating a water level reduction rate by comparing the first water level and the second water level over time. As a preliminary matter, the arguments made with respect to calculating a water level reduction rate in claim 1 are repeated here by reference. Furthermore, the Examiner's argument that the phrase "water reduction rate" is not specified in the claims is completely erroneous in claim 9. Claim 9 is clear in that the water level reduction rate is calculated by comparing the first water level and the second water level over time. *Kim* does not disclose this feature. *Kim* discloses that the water level sensor keeps measuring the water level in the drum, and the controller keeps comparing the measured water level to a preset minimum water level. The controller repeats the water re-supply whenever it is determined that the water level in the drum is below a minimum water

14

level. *See Kim* at column 5, lines 8-18. There is no calculation performed by the controller in which water re-supply is based on a temporal factor. In other words, there is no calculation of water level reduction rate by comparing the first water level and the second water level over time as is used to determine a water re-supply amount, as required in claim 9.

Therefore, the rejection of claims 1-9 under 35 U.S.C. § 102(e) as being anticipated by *Kim* is improper and should be reversed.

VII. CONCLUSION

For reasons as discussed above, claims 1-9 is improperly rejected under 35 U.S.C. §102(e) as being anticipated by *Kim*.

The Honorable Board is requested to reverse the rejections set forth in the final Office Action and direct the Examiner to pass this application to issue.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: August 20, 2007

Respectfully submitted,

By _Michael I. August (Reg. No. 46,522)_

for **Mark R. Kresloff**
Registration No.: 42,766
McKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorneys for Applicant

Attachments

CLAIMS APPENDIX

Claims Involved in the Appeal of Application Serial No. 10/720,749

1.   (Previously Amended) A washing machine control method comprising steps of:

proceeding with a user-selected wash course after supplying water to a washing machine according to a first water level set based on an amount of laundry in the washing machine;

sensing a second water level at a predetermined time during the wash course;

calculating a water level reduction rate based on the set first water level and the sensed second water level;

determining a water re-supply amount by comparing the calculated water level reduction rate to a predetermined value; and

completing the user-selected wash course after re-supplying water to the washing machine according to the water re-supply amount.

2.   (Previously Presented) The method as claimed in claim 1, wherein the water is re-supplied according to the first water level, if the calculated water level reduction rate is less than the predetermined value.

3.   (Previously Presented) The method as claimed in claim 8, wherein the third water level is greater than the first water level.

4.   (Original) The method as claimed in claim 1, wherein said sensing and calculating steps are each repeated, to obtain an average rate of water level reduction, and wherein the user-selected wash course is reset based on the average rate of water level reduction.

5.   (Original) The method as claimed in claim 4, wherein the said sensing and calculating steps are each repeated three times.

6.   (Original) The method as claimed in claim 4, wherein the said sensing and calculating steps are each repeated four times.

7.   (Previously Presented) The method as claimed in claim 1, wherein the first and second water levels are sensed by sensing a variation of a water pressure of the water in the washing machine.

8.   (Previously Presented) The method as claimed in claim 1, wherein the water is re-supplied according to a third water level if the calculated water level reduction rate is greater than or equal to the predetermined value.

9.   (Previously Presented) A washing machine control method comprising:

supplying water to a washing machine according to a first water level based on an amount of laundry in the washing machine;

performing a wash cycle for a predetermined time;

sensing a second water level after the predetermined time;

calculating a water level reduction rate by comparing the first water level and the second water level over time;

determining a water re-supply amount by comparing the calculated water level reduction rate to a predetermined value; and

completing the wash cycle after re-supplying water to the washing machine based on the water re-supply amount.

2

OIPE
AUG 20 2007
PATENT & TRADEMARK OFFICE
IAP58

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.